

1/7

Fig. 1.

CTCATGAGAAGGAGAAGTGCCTCAGCATTCTCTAGACTGTCATTTCTACTTTAGCTGAGT
TGCTGGGAATGAAATCTTCTCTTGTACCCCTGCCTGGTTGCTGGAATAAAAATGTTTAAT
TTGGATTGTTAACCTGTTTTCCAGAGTTACCGGACTCAAAAATTGAGCTACTGGGGGAAAC
TTCTATTGCATCAACCATATCATACCTAGACA/TATGCTTTTGTCTTCATTGGCTCAAG
CTACGGAGATTACAGGTACTTTTAACTGTTGAGTGCATCTTGGTGCAATAAGTTGGTTT
TTAGAGCTGCCTTATTGTATTTTCCATACAGTAGCCTTTCATTTCATTGGAACATTGAGG
TTTTAAATTTAGTTGCCTATTTCTGGTGGTGCTTCATATTTACAGTTCCACTAATATT
TTTGAATTCAGTTTAGCTTGTAAGCTCAATCTCCAGCCTGACACCAA

Fig. 2

Rec Dist	Marker
Frac. cm	Id Name
(12.2%) 12.4	(33) TG522
(3.0%) 9.0	(14) RAPDhp-10
(0.0%) 0.0	(13) 45S
(1.6%) 1.6	(26) RAPDhp-7
(5.0%) 5.1	(1) hp
(4.7%) 4.7	(28) CT205
(4.8%) 4.8	(27) TG276
(4.8%) 4.8	(34) RAPDhp-11
(7.7%) 7.7	(17) CT196
(9.5%) 9.6	(16) TG165
(12.6%) 12.9	(21) TG293
(8.3%) 6.4	(25) TG582
(12.1%) 12.4	(22) CT255
(20.7%) 22.0	(18) TG290
	(23) TG452

IL 2-1

Pst I digested

Uncut

L. pennellii

L. pennellii

M82

M82

Size marker

IL 2-6

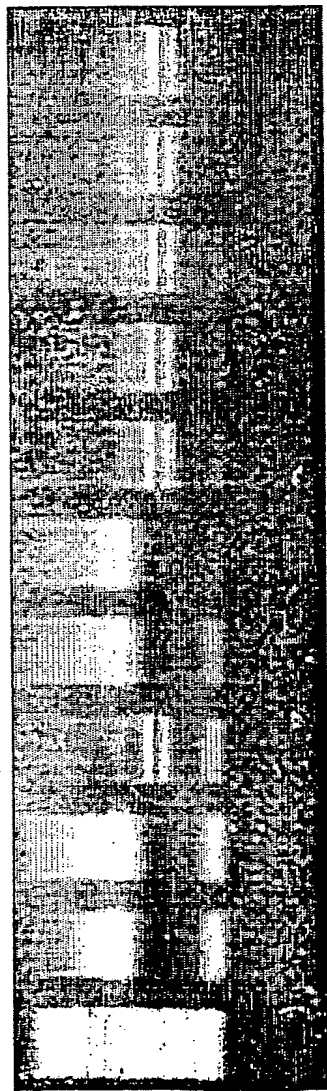
IL 2-5

IL 2-4

IL 2-3

IL 2-2

IL 2-1



ch2

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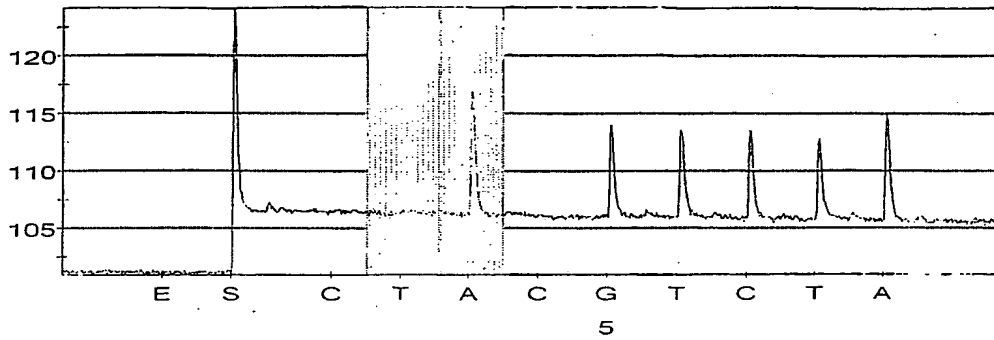
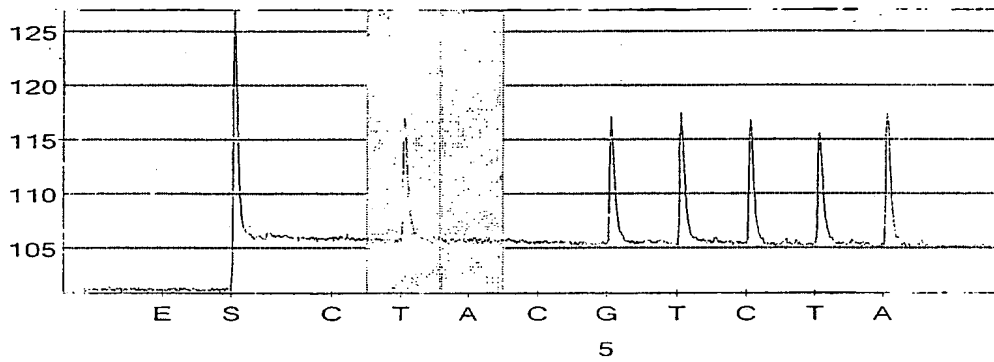
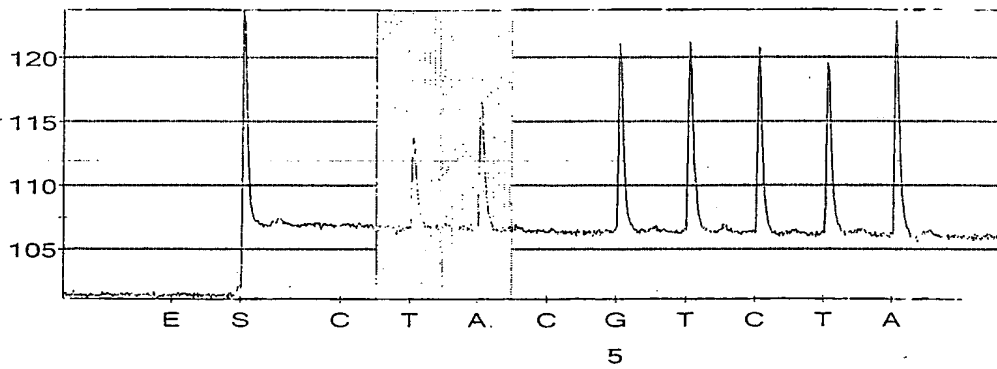
Fig. 3a. *hp-1/hp-1*b. *+/+*c. *hp-1/+*

Fig. 4

a. hp-1 (Asn>Tyr)

Gg	285	LEKEEQMDGTVTLKDD	RVELLGGETSIAE	CLTYLDNGVVFVGSRL	GDSQLVKLNVD	SNEQG
Hs	285	LEKEEQMDGTVTLKDD	RVELLGGETSIAE	CLTYLDNGVVFVGSRL	GDSQLVKLNVD	SNEQG
Dm	285	LGTAETSKG-VTVKDK	RVQLGGEIS	ECTYLDNGFLYICARH	GDSQLVRLN	SEAIID-G
At_DDB1B	282	ITHEK----	EKVTKGLKIELLGETS	SIASSISYLDNAVVFVGS	SYGDSQLKLNLP	QPDANG
At_DDB1A	282	ITHEK----	EKVTKGLKIELLGETS	SIASSISYLDNAVVFVGS	SYGDSQLVKNLHP	PDANG
Le	282	ITHEK----	EKVTKGLKIELLGETS	SIASSISYLDNAVVFVGS	SYGDSQLVKNLQ	PDTKG
Os	283	LTHERR----	ERVTKGLKIELLGETS	SIASSISYLDNGVVVGS	RFGDSQLVKNLQ	ADPANG
Sp	293	ALFTD-----	ETVSMLEKELGESS	SIASCLIALPDNHLFVGS	HFNNSVLLQLP	SITKNN-

b. hp-1^w (Glu>Lys)

Gg	817	VSKLKGDDPNTVF	IVGTAMVYP	EEAEPKQGR	IVVFHYS-	DGKLQSLAEKEVK	GAVYSMVE
Hs	817	VSKLKGDDPNTVF	IVGTAMVYP	EEAEPKQGR	IVVFHYS-	DGKLQSLAEKEVK	GAVYSMVE
Dm	818	MSAKLGDDPNTVF	IVVATSLVI	PEEPEPKVGR	ILFHYH-	ENKLTQVAETK	VDTGCTVALVE
At_DDB1B	772	LSCSFTDDKNVY	CVGTAYVLP	PEENEPKGR	ILVFIVE-	EGRLOLITTEKET	KGAVYSINA
At_DDB1A	772	LSCSFTDDKNVY	CVGTAYVLP	PEENEPKGR	ILVFIVE-	DGRLOLITAEKET	KGAVYSINA
Le	773	LSCSFTDDSNVY	CVGTAYVLP	PEENEPKGR	ILVFIVE-	DGKLQSLAEKET	KGAVYSINA
Os	774	LSCSFTDDNNVY	CVGTAYVLP	PEENEPKGR	ILVFIVE-	DGRLOLITAEKET	KGAVYSINA
Sp	762	ILMNDKRR----	VVVGTFGNF	FDQDAPDSGR	LMVFEMTS	DNNTMQAEHK	VQGSVNTLV

Fig. 5

1 ATGAGTGATGGAACACTACGTGGTTACGGCTCACAAACCAAAATGTTACACATTCTCTGTGTGGCAATTTACCCGGTCC
81 TCAAGAGCTCAATCTTATCATTTGGGAAATGACTCGAATCGAGATTCAATTTACTCTCCCAAGGTTACAGCCTATGT
161 TAGATGTGCCAATATATGGGAGGATCGCGACACTTGAGCTTTTTCGTCCTCACGGTGAACACACAGATCTTCTCTTCATC
241 GCAACAGAGCGGATATAAATTTCTGTGTCTCAATGGGATACCTGAGGCATCTGAAGTTATCACAGAGCAATGGGAGATGT
321 GTCAGACCGAATAGGCCGTCCACACAGATAATGGTCAGATTGGTATAATGATCCAGATTGCAGATTGATCGGGCTACATC
401 TTTATGATGGACTATTTAAGGTTATTCCATTGTGATAACAAAGGCCAACTGAAGGAAGCTTTTAAACATCAGGCTCGAGGAG
481 CTTCAAGTTTTAGATATAAATTTCTGTATGGTTGCCCAAGCCCTACAATTTGTTCTATATCAGGATAACAAAGGATGC
561 CCGGCATGTCAAAACATATGAGGTGTCCTTGAAAGACAAAGATTTTATGAAGGGCCATGGGCTCAAAATAATCTTGATA
641 ATGGAGCTTCTTTGCTAATACCACTACCTCCACCACCTGTGTGGTGATTGATTATTGGAGAAGAAACCATCGTTTATTGC
721 AGCGCTTCAGCTTTTAAGGCTATCCCAATTAGACCTTCTATCACAAAGAGCATATGGCGGGTTGATGCTGATGGTTCTCG
801 ATATTGCTTGGGATCATATAATGGGCTTCTTCACTACTTGTAACTCATGAGAAGGAGAAAGTTACCGGACTCAAAA
881 TTGAGCTACTGGGGAAACTTCTATTGCATCAACCATATCATACCTAGACAATGCTTTTGTCTTCTTCTTGGCTCAAGCTAC
961 GGAGATTACAGCTTGTAAGCTCAATCTCCAGCCTGACACCAAGGTTCTTATGTGGAAGTTCTAGAGAGATATGTCAA
1041 TTTAGGACCTATTGTGGACTTCTGTGTTGTATCTGGAAGGCAAGGTCAGGTCAGGTTGTAACCTTGTCTGGAGCCT
1121 APAAGGATGGATCACTTCGTATGTTTCGAAATGGAATGGCATAAATGAACAGGCGTCTGTGGAACTACAAGGGATCAAA
1201 GGAATGTTGGTCTTTAGATCTGCTACTGATGATCCATATGACACATTTCTTGGTTGTTAGCTTCATTAGTGAGACACGCGT
1281 TTTGGCTATGAACCTTGAGGATGAGCTGGAAGAACTGAGATAGAAGGCTTCAATCTCAAGTCCAGACCTTGTTTTGTGTC
1361 ATGATGCTGTATACAAACAGCTTGTTCAGGTTACTTCAAAATTTCTGTTAGATTGGTCAGTTCTACCTCTAGAGATCTGAAA
1441 AACGAGTGGTTTGGCCCCAGTCGGCTACTCGGTCAATGTTGCAACTGCTAATGCCACTCAGGTACTATTGGCTACTGGGGG
1521 TGGCCATCTGGTATACCTAGAAAATGGTGATGGGGTGTGAATGAAGTAAATAATGCCAAGTTGGATTATGATATCTCGT
1601 GCCTGGACATAAATCCAAATGGTGAAAATCCGAACACTACAGTAACATTGCAGCAGTTGGAATGTGGACAGACATAAGTGTC
1681 AGGATATATTCACTTCCCTGACTTGAATCTCATTTACAAAGGAACAGCTAGGAGGGGAGATAAATTCCTCGTTCTGTTCTGAT
1761 GTGTTCTCTCGAAGGGATATCTTATCTACTATGTGCTTTGGGAGATGGCCATCTCTTGAATTTTGTATTGAGCATGAGTA
1841 CTGGTGAGCTGACAGATAGGAAAAAAGTTTCTCTTGGGACACAGCCCCATAACACITCGTACATTTCTCATCTAAAGATACT

1921 ACACATGTCTTTGCTGCCTCCGATAGGCCAACAGTTATTACAGCAGTAACAAGAGCTGCTTTATAGCAATGTAATCT
2001 AAAAGAGTTAGTCATATGTGCCCCATTCAATGTTGCAGCTTTTCCAGACAGCCTTGCAATCGCTAAAGAAGGTGAGTTAA
2081 CAATTGGCACTATTGATGAATTCAAAAGCTTCACATTCGTTCAATACCCCTTGGGAGCATGCACGTCCGATCAGCCAT
2161 CAAGAGCAGACCCGGACATTTGCTCTATGCAGTGTGAAGTATCTAGTCAAAATGCAGATGATCCTGAAATGCATTTGT
2241 CCGCCTGTTGGATGATCAGACATTTGAGTTCATATCAACATATCCCTTGACCAATTTGAATATGGCTGTTCCATACTAA
2321 GCTGCTCCTTTTCTGATGATAGTAATGTGTATTATTGCAATTGGAACCTGCATATGTGATGCCAGAGGAAAATGAACTACT
2401 AAGGCCGAATTTTAGTTTTATAGTTGAAGATGGAAGCTCCAGCTAATTGCTGAGAAGGAAACTAAGGGAGCTGTCTA
2481 CTCCTAAATGCCCTTCAATGGGAAACTGCTTGCTGCAATCAATCAGAAGATTCAATTGTACAAGTGGCTTCGCGTGAGG
2561 ATGGTGCAGCCGAGAAATTGCAGACAGAAATGTGGACACCATGGTCATATATTAGCTCTTTATGTTCAAAACACGTGGGGAT
2641 TTCATTGTTGTTGGTGAATTTGATGAAATCCATTTCTCTGCTGATTTTCAAGCATGAAGAGGTGCTATAGAGGAGCGAGC
2721 CAGAGACTATAATGCAAAATTGGATGTGCTGATGATGACATTTATCTTGGTCTGAGAAATAACTTCA
2801 ACCTTTTCACGGTCAGGAAAATAGTGAAGGTGCTACAGATGAGGAGCGCAGCCGCTTGAAGTGGTTGGTGAATACCAC
2881 CTTGGCGAATTTGTTAATAGGTTAGACATGGTTCACTTGTCTATGCGACTACCGACTACAGATTCAGATGTTGGGCAGATACCCAC
2961 TGTCATATTTGGCACAGTGAATGGTGTATTAGGGGTGATTGCATCACTACCTCATGATCAATATTTATTTTGGAGAAGC
3041 TGCAGACAAACTTACGGAAAGTGATAAAGGGTGTGGGAGGTCTGAGCCATGAGCAGTGGAGGTCGTTTTTACAAATGAGAAG
3121 AAAACAGTAGATGCTAAAACCTTCTTGTGATGGAGATTTGATTGAATCATTCCTAGATCTTAGCAGGAATAGGATGGAAGA
3201 GATTTCAAAGGCTATGTCTAGTCCAGTTGAGGAACCTAATGAAGAGAGTGGAAAGAGTTGACAAGGTTGCATTAG

Fig. 6

1 MSVWNYVTAHKPTNVTHSCVGNFTGPQELNLIIAKCTRIEIHLLTPQGLQPMLDVPIYGRIATLELFRPHGETQDLLFI
81 ATERYKFCVLQWDTEASEVITRAMGDVSDRIGRPTDNGQIGIIDPCRLIGHLYDGLFKVIPFDNKGQLKEAFNIRLEE
161 LQVLDIKELYGCPKPTIVVLYQDNKDARHVKTIEVSLKDKDFIEGPAQNNLDNGASLLIPVPPPLCGVLIIGEETIVYC
241 SASAFKAIPRPSITRAYGRVDADGSRYL LGDHNGLLHLLVITHEKEKVTGLKIELLGSETSIASTISYLDNafvfigssy
321 GDSQLVKLNLPDTKGSYVEVLERYVNLGPVDFCVVDLERQGGQVVTCGAYKDGSLRIVRNGIGINEQASVELQGIK
401 GMWSLRSATDDPYDTFLVVSFISETRVLAMNLEDELEETEIEGFNSQVQTLFCHDAVYNQLVQVTSNSVRLVSSTSRLDK
481 NEWFAPVGYSVNVATANATQVLLATGGGHLVYLEIGDGVNLNEVKYAKLDYDISCLDINPIGENPNYSNIAAVGMWTDISV
561 RIYSLPDLNLITKEQLGGEIIPRSVLMCSFEGISYLLCALGDGHLNLFVLSMSTGELTDRKKVSLGTQPIITLRTFSSKOT
641 THVFAASDRPTVIYSSNKKLLYSNVNLKEVSHMCPFNVAAPDLSLAIKEGELTIGTIDEIQKLHRSIPLGEHARRISH
721 QEQTRTFALCSVKYTQSNADDPMEHFVRLLDDQTFEFISTYPLDQFEYGCSSILSCSFSDDSNVYICIGTAYVMPEENEPT
801 KGRILVFIVEDGKLQLIAEKETKGAVYSLNAFNGLLAAINQIKIOLYKWAASREDGGSRELQTECGHHGHILALYVQTRGD
881 FIWGDLMKSISLLIFKHEEGAIEERARDYNANWMSAVEILDDDIYLGAEENNENFTVRKNSEGADEERSRLLEVVGGEYH
961 LGEFVNRFRHGSLVMRLPDSVDVGQIPTVIFGTVNGVIGVIAASLPHDQYLFLEKLQTNLRKVIKGVGGLSHEQWRSFYNEK
1041 KTVDAKNFLDGD LIESFLDLSRNRMEEISKAMSVPVEELMKRVEELTRLH